



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,062	11/16/2001	Seung-Hoon Hwang	HI.0054	7850
34610	7590	01/24/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			PHUNKULH, BOB A	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/988,062

Applicant(s)

HWANG, SEUNG-HOON

Examiner

Bob A. Phunkulh

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This communication is in response to applicant's 11/09/2005 amendment(s)/response(s) in the application of **HWANG** for "**METHOD OF LINK ADAPTATION OF BLIND TYPE USING ACKNOWLEDGEMENTS IN ARQ SYSTEM**" filed 11/16/2001. The amendments/response to the claims have been entered. Claims 2, 8, have been canceled. No claims have been added. Claims 1, 3-7, 9-11 are now pending.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 5-7, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (US 6,249,897), hereinafter Lin, in view of Gardner et al. (US 5,729,557), hereinafter Gardner.

Regarding claim 1, Lin discloses a method of controlling an wireless communication link in a transmitter of an wireless communication system automatically requiring a retransmission from a receiving party to a transmitting party, the method comprising the steps of:

Art Unit: 2661

transmitting data by an initial coding rate and/or an initial transmission power value to the receiving party (the base station transmit data frame with initial transmission power, see col. 3 lines 50-59);

receiving a retransmission request signal from the receiving party (the transcoder in the base station determines whether to re-transmits the messages based on the received feed back signal, see col. 4 lines 6-15); and

performing the data retransmission by increasing the transmission power according to the retransmission request (if the stored message is to be retransmitted, the base station will preferably transmit the message at an increased power level, and if the first transmission occurred at a first power level, the second transmission will occur at a second power level greater than the first power level, see col. 4 line 21-27).

Lin fails to disclose performing the data retransmission by decreasing the initial coding rate.

Gardner, on the other, teaches performing the data retransmission by changing initial coding rate of  $\frac{2}{3}$  to  $\frac{1}{2}$  or  $\frac{1}{3}$  (see col. 2 lines 43-54).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made implement the teaching on Gardner in the system taught by Lin especially decreasing the coding rate in order to improve the reception quality at the receiver for data retransmission.

Regarding claim 7, Lin discloses a method of controlling an wireless communication link in a transmitter of an wireless communication system that

Art Unit: 2661

automatically requiring a retransmission from a receiving party to a transmitting party, the method comprising the steps of:

transmitting data by an initial coding rate and/or an initial transmission power value to the receiving party the base station transmit data frame with initial transmission power, see col. 3 lines 50-59);

receiving a retransmission request signal from the receiving party (the transcoder in the base station determines whether to re-transmits the messages based on the received feed back signal, see col. 4 lines 6-15); and

performing the data retransmission by increasing the number of multi-codes according to the retransmission request (if a signaling message was spread across multiple frames, and the entire message is required, the entire message will be resent, see col. 4 lines 49-58).

Lin fails to disclose performing the data retransmission by decreasing the initial coding rate.

Gardner, on the other, teaches performing the data retransmission by changing initial coding rate of  $\frac{2}{3}$  to  $\frac{1}{2}$  or  $\frac{1}{3}$  (see col. 2 lines 43-54).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made implement the teaching on Gardner in the system taught by Lin especially decreasing the coding rate in order to improve the reception quality at the receiver for data retransmission.

Regarding claim 5, Gardner discloses the power value is gradually increased while the data retransmission is performed according to the retransmission request (the transmit power is gradually increased before selecting a lower code rate, see col. 2 lines 30-42).

Regarding claim 6, Lin discloses the retransmission step is performed by maintaining the initial coding rate and increasing the transmission power according to the retransmission request (see col. 4 lines 19-26).

Regarding claim 11, Lin discloses the retransmission step is performed by maintaining the initial coding rate and increasing the number of multi-codes according to the retransmission request (see col. 4 lines 49-28).

Regarding claims 3, and 9, Lin inherently discloses that the transmission power is returned to an initialized value, if a response signal is received from the receiving party after performing the retransmission step (only the retransmission of data is occurred at a second power level greater than the first power level, see col. 4 lines 21-26).

Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lin-Gardner as applied to claims 1 and 7 above, and further in view of Mousley (US 6,898,417).

Regarding claims 4 and 10, the combination of Lin-Gardner fails to disclose if the decrease of the coding rate for the retransmission reaches a lowest coding rate, the retransmission is continuously performed at the lowest coding rate, while the transmission power is continuously increased.

Moulsley, on the other hand, disclose that by retransmitting at a greater power level, the probability of correct reception is enhanced, especially when the communication link is wireless (see abstract).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made includes the teaching of Moulsley especially retransmitting the data at a greater power in the system taught by the combination of Lin-Gardner for retransmitting at a greater power level provides the probability of correct reception at the wireless receiver.

### ***Conclusion***

#### **Any response to this action should be mailed to:**

The following address mail to be delivered by the United States Postal Service (USPS) only:

Mail Stop \_\_\_\_\_  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

#### **or faxed to:**

(703) 872-9306, (for formal communications intended for entry)

Art Unit: 2661

**Or:**

The following address mail to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, Hand Delivery, etc.) as follow:

U.S. Patent and Trademark Office  
220 20<sup>th</sup> Street South  
Customer Window, Mail Stop \_\_\_\_\_  
Crystal Plaza Two, Lobby, Room 1B03  
Arlington, VA 22202.

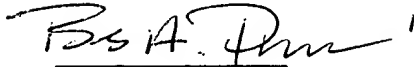
Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083**. The examiner can normally be reached on Monday-Tuesday from 8:00 A.M. to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Chau Nguyen**, can be reach on **(571) 272-3126**. The fax phone number for this group is **(571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Art Unit: 2661



Bob A. Phunkulh  
Primary Examiner  
TC 2600

**BOB PHUNKULH**  
**PRIMARY EXAMINER**

Art Unit 2661  
January 17, 2005